



SEQUENCE LISTING

(1) GENERAL INFORMATION:

- (i) APPLICANTS: Sherman M. Weissman  
Namadev Baskaran
- (ii) TITLE OF INVENTION: Amplification of Nucleic Acids
- (iii) NUMBER OF SEQUENCES: 8
- (iv) CORRESPONDENCE ADDRESS:
  - (A) ADDRESSEE: Morgan, Lewis & Bockius LLP
  - (B) STREET: 1111 Pennsylvania Ave., NW
  - (C) CITY: Washington
  - (D) STATE: D.C.
  - (E) COUNTRY: USA
  - (F) ZIP: 20004
- (v) COMPUTER READABLE FORM:
  - (A) MEDIUM TYPE: Diskette
  - (B) COMPUTER: IBM PC compatible
  - (C) OPERATING SYSTEM: PC-DOS/MS-DOS
  - (D) SOFTWARE: Patentin Release #1.0. Version #1.30
- (vi) CURRENT APPLICATION DATA:
  - (A) APPLICATION NUMBER: US 10/073,353
  - (B) FILING DATE: 2002-02-13
- (vii) PRIOR APPLICATION DATA:
  - (A) APPLICATION NUMBER: US 08/758,662
  - (B) FILING DATE: 1996-12-07
- (vii) PRIOR APPLICATION DATA:
  - (A) APPLICATION NUMBER: US 08/758,662 (CPA)
  - (B) FILING DATE: 1999-02-17
- (vii) PRIOR APPLICATION DATA:
  - (A) APPLICATION NUMBER: US 09/585,437
  - (B) FILING DATE: 2000-06-02
- (viii) ATTORNEY/AGENT INFORMATION:
  - (A) NAME: Michael S. Tuscan
  - (B) REGISTRATION NUMBER: 43,210
  - (C) REFERENCE/DOCKET NUMBER: 44921-5007-03-US
- (ix) TELECOMMUNICATION INFORMATION:
  - (A) TELEPHONE: 202-739-3000
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(2) INFORMATION FOR SEQ ID NO:1:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 24 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:  
CGCCAGGGTT TTCCAGTCA CGAC

(2) INFORMATION FOR SEQ ID NO:2:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 24 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:  
 AGCGGATAAC AATTTACAC AGGA

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(2) INFORMATION FOR SEQ ID NO:3:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 1652 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

GGATCCGGCC	CCACGGAGGT	CCCCATCTCC	CTCAAGATTC	TCAGATTCAT	CCCCAATGAG	60
TGGTGTAGCC	CCTACAGGGG	TGTCAGCCCC	CCTCATCACC	AACAGTGACA	GTGACAGAGG	120
CTGGAGATGA	GGGGCCAGCA	GGCTCCAGGG	AGTCGGGGGT	GGCCTTGGGC	AGGGTTTCTT	180
CACTACGAGG	GGTGTTCCCC	AAAGAGCCAT	GAAGTGTAGA	GGAAGAGAAA	AAGTTCAGAG	240
CTAAGGGCTC	AGGAGATCCT	GTGTATTTAG	GGAAGGTGAC	GGTCCAATTG	GGGCCCCGTTT	300
TAGCTGCACT	CACCTCTCTC	GGTGGCTCCT	CTGGTTTCCT	TCTCCAGCAG	CTCCCCCATC	360
TCAGCGGGGG	CCATCCCCCT	GGGAGGGGAG	ACAAGGGACA	GGAGGGCTGG	TCAGCCCAGT	420
AGAGAGTTGG	GGGGTCCAGG	ATGCCTGGGC	CCTGGGAAGA	GAGAGTAGGC	TCCGGGGCCT	480
ACCTCTTCCT	CTGGCCCTTC	CGCGGCCTCG	GCTGCCCCGA	GCCGCACAAC	CCTCCCCGGG	540
CCGCATAATC	CCTCCTTGAT	GACCCTCCCT	CTCGGTAGTA	CCCGCACTCT	GGGGCCGAGA	600
GAAGAGGAGG	GGGCACGGAC	TCTTGGGGGG	GGCCTCCGAG	CCCGGCCCCG	CCCCTCTCCC	660
CGGCTGCACG	CGCCGATACC	CTTTGTACCC	AGGCGCGGGA	CCCGGACAAT	CCTCAGATCC	720
TCCAGCACCC	GCTGCCCCCC	AGCCCGGTGG	ACGGCCCCCTC	GTGCCCCCTCA	CGCGTGCTCC	780
TGGGGCCCCG	GCGCCCGTCG	CCCAGTGCGG	GCAGGCCGGC	GGCTGCACGC	GCGCCTCCGT	840
GCCCCACTCC	CCCACCTCCC	ACACCCTGGT	CCCCTCATCC	GCCCCCGGTG	CTGGCCCCCT	900
GGATTGTGTC	AAGTCCCGCC	CGGCCCCCGG	CCCCGTTGCA	CCCCCGGAGC	ATTGCACGGC	960
GCTTCCCCCG	GGGGCGCGCG	CGGGCATGCA	CCGCCTCTCT	CCCCTCCCTT	CCGCACCTCG	1020
GCGGCCGCCG	CCGCTGCAGC	TCCCGCCGCC	GCCGCCATCG	CGCTTGCGCT	GGGGGCCGAG	1080
CCGGCGCGCG	GCCGCCCCGG	GTCACGTGGG	CGAGGGAGGG	AGGGCGAGGA	GGAGCCTTAA	1140
AGGAGCCGCT	ACATGCTTTT	TGGCCATTTT	CCCCTGAGAG	CGGCCTCGGA	GATGGCTGTG	1200
ACTGTCTTAA	GCTGGGAGCT	GCAAGGGAGA	ATTCTGTCA	TTCCTGGCCT	CAGTTCTGCA	1260
GGGACCGAGG	GCGAGACACG	CCTGGGCCCA	GGTGTGGCGT	CTCTGTCCCC	ATCTGGTTTTT	1320
AGGTAACAAG	CGGACGTTCT	GAACTTCTCG	GCTCTCGGCA	GCGGCTGTAT	TTCTCTGGC	1380
CTGGTTGGGC	TTTTCCCGCC	TCTGGTTGCT	TTTCTGCCTT	TCTAGTTTTT	GGGTTACCAG	1440
ATAGAAGGCT	TGGCCTCAGT	TTTGGCCTCG	CCTTTTTGCT	CTTTCTAACG	AGCACGAAGG	1500
GGCGATAGGG	ACGCGGAGGA	CACCTTTATT	CTTGGCTGGT	TCTAGCATGC	TGCTTCATGT	1560
CCCCTGGAGC	AGCGTGCCCT	TCTGAAAACC	TGTGGCTAAA	TGTCTCTTCT	GTTTATATCT	1620
GGCGTGTTAC	ACCTTCACAC	GCACTAGGAT	CC			1652

(2) INFORMATION FOR SEQ ID NO:4:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 530 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

CGAGGCCATC	CGGCGGGCCT	GCCTGCCCCAC	GCCGCCGCTG	CAGAGCAACC	TCTTCGCCAG	60
CCTGGACGAG	ACGCTGCTGG	CGCGGGCCGA	GGCGCTGGCG	GCCGTGGACA	TCGCCGTGTC	120
CCAGGGCAAG	AGCCATCCTT	TCAAGCCGGA	CGCCACGTAC	CACACGATGA	ACAGCGTGCC	180
GTGCACGTCC	ACTTCCACGG	TGCCTCTGGC	GCACCACCAC	CACCACCACC	ACCACCACCA	240
GGCGCTCGAA	CCCGGCGATC	TGCTGGACCA	CATCTCCTCG	CCGTCGCTCG	CGCTCATGGC	300
CGGCGCGGGC	GGCGCGGGCG	CGGCGGCCGG	CGGCGGCGGC	GCCCACGACG	GCCCGGGGGG	360
CGGTGGCGGC	CCGGGCGGCG	GCGGCGGCCC	GGGCGGCGGC	GGCCCCGGGG	GAGGCGGCGG	420

TGGCGGCCCCG GGGGGCGGCG GCGGCGGCCC GGGCGGCGGG CTCCTGGGCG GCTCCGCGCA	480
CCCTCACCCG CATATGCACA GCCTGGGCCA CCTGTGCGAC CCCGCGGCGG	530

(2) INFORMATION FOR SEQ ID NO:5:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 515 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

ATGGCGATAA CAGTCATGTG GAGATGAAAC TTGCTGTAGA TGAAGAAGAA AATGCTGACA	60
ATAACACAAA GGCCAATGTC ACAAACCAAA AAAGGTGTAG TGGAAGTATC TGCTATGGGA	120
CTATTGCTGT GATCGTCTTT TTCTTGATTG GATTTATGAT TGGCTACTTG GGCTATTGTA	180
AAGGGGTAGA ACCAAAAACT GAGTGTGAGA GACTGGCAGG AACCGAGTCT CCAGTGAGGG	240
AGGAGCCAGG AGAGGACTTC CCTGCAGCAC GTCGCTTATA TTGGGATGAC CTGAAGAGAA	300
AGTTGTGCGA GAAACTGGAC AGCACAGACT TCACCAGCAC CATCAAGCTG CTGAATGAAA	360
ATTCATATGT CCCTCGTGAG GCTGGATCTC AAAAAGATGA AAATCTTGCG TTGTATGTTG	420
AAAATCAATT TCGTGAATTT AACTCAGCA AAGTCTGGCG TGATCAACAT TTTGTTAAGA	480
TTCAGGTCAA AGACAGCGCT CAAAACTCGG TGATC	515

(2) INFORMATION FOR SEQ ID NO:6:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

GCTCAGCTCC GTTTCGGTTT CACTTCCGGT	30
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(2) INFORMATION FOR SEQ ID NO:7:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

AGCCCCGCAC TTCCACCACC AGCTCCTCCA	30
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(2) INFORMATION FOR SEQ ID NO:8:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2584 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

GAGGAGCAGC GAGTCAAGAT GAGAGTTCAG CCGCGGCGGC AGCAGCAGCA GACTCAAGAA	60
TGAACAATCC GTCAGAAACC AGTAAACCAT CTATGGAGAG TGGAGATGGC AACACAGGCA	120
CACAAACCAA TGGTCTGGAC TTTCAGAAAC AGCCTGTGCC TGTAGGAGGA GCAATCTCAA	180
CAGCCCAGGC GCAGGCTTTC CTTGGACATC TCCATCAGGT CCAACTCGCT GGAACAAGTT	240
TACAGGCTGC TGCTCAGTCT TTAAATGTAC AGTCTAAATC TAATGAAGAA TCGGGGGATT	300
CGCAGCAGCC AAGCCAGCCT TCCCAGCAGC CTTCAGTGCA GGCAGCCATT CCCCAGACCC	360
AGCTTATGCT AGCTGGAGGA CAGATAACTG GGCTTACTTT GACGCCTGCC CAGCAACAGT	420
TACTACTCCA GCAGGCACAG GCACAGGCAC AGCTGCTGGC TGCTGCAGTG CAGCAGCACT	480
CCGCCAGCCA GCAGCACAGT GCTGCTGGAG CCACCATCTC CGCCTCTGCT GCCACGCCCA	540
TGACGCAGAT CCCCCTGTCT CAGCCCATAC AGATCGCACA GGATCTTCAA CAACTGCAAC	600
AGCTTCAACA GCAGAATCTC AACCTGCAAC AGTTTGTGTT GGTGCATCCA ACCACCAATT	660
TGCAGCCAGC GCAGTTTATC ATCTCACAGA CGCCCCAGGG CCAGCAGGGT CTCCTGCAAG	720

CGCAAAATCT	TCAAACGCAA	CTACCTCAGC	AAAGCCAAGC	CAACCTCCTA	CAGTCGCAGC	780
CAAGCATCAC	CCTCACCTCC	CAGCCAGCAA	CCCCAACACG	CACAATAGCA	GCAACCCCAA	840
TTCAGAACT	TCCACAGAGC	CAGTCAACAC	CAAAGCGAAT	TGATACTCCC	AGCTTGGAGG	900
AGCCCAGTGA	CCTTGAGGAG	CTTGAGCAGT	TTGCCAAGAC	CTTCAAACAA	AGACGAATCA	960
AACTTGATT	CACTCAGGGT	GATGTTGGGC	TCGCTATGGG	GAAACTATAT	GGAAATGACT	1020
TCAGCCAAAC	TACCATCTCT	CGATTTGAAG	CCTTGAACCT	CAGCTTTAAG	AACATGTGCA	1080
AGTTGAAGCC	ACTTTTAGAG	AAGTGGCTAA	ATGATGCAGA	GAACCTCTCA	TCTGATTCGT	1140
CCCTCTCCAG	CCCAAGTGCC	CTGAATTCTC	CAGGAATTGA	GGGCTTGAGC	CGTAGGAGGA	1200
AGAAACGCAC	CAGCATAGAG	ACCAACATCC	GTGTGGCCTT	AGAGAAGAGT	TTCTTGAGGA	1260
ATCAAAAGCC	TACCTCGGAA	GAGATCACTA	TGATTGCTGA	TCAGCTCAAT	ATGGAAAAAG	1320
AGGTGATTCT	TGTTTGGTTC	TGTAACCGCC	GCCAGAAAGA	AAAAAGAATC	AACCCACCAA	1380
GCAGTGGTGG	GACCAGCAGC	TCACCTATTA	AAGCAATTTT	CCCCAGCCCA	ACTTCACTGG	1440
TGGCGACCA	ACCAAGCCTT	GTGACTAGCA	GTGCAGCAAC	TACCCTCACA	GTCAGCCCTG	1500
TCCTCCCTCT	GACCAGTGCT	GCTGTGACGA	ATCTTTCAGT	TACAGGCACT	TCAGACACCA	1560
CCTCCAACAA	CACAGCAACC	GTGATTTCCA	CAGCGCCTCC	AGCTTCCTCA	GCAGTCACGT	1620
CCCCCTCTCT	GAGTCCCTCC	CCTTCTGCCT	CAGCCTCCAC	CTCCGAGGCA	TCCAGTGCCA	1680
GTGAGACCAG	CACAACACAG	ACCACCTCCA	CTCCTTTGTC	CTCCCTCTTT	GGGACCAGCC	1740
AGGTGATGGT	GACAGCATCA	GGTTTGCAAA	CAGCAGCAGC	TGCTGCCCTT	CAAGGAGCTG	1800
CACAGTTGCC	AGCAAAATGCC	AGTCTTGCTG	CCATGGCAGC	TGCTGCAGGA	CTAAACCCAA	1860
GCCTGATGGC	ACCCTCACAG	TTTGCGGCTG	GAGGTGCCTT	ACTCAGTCTG	AATCCAGGGA	1920
CCCTGAGCGG	TGCTCTCAGC	CCAGCTCTAA	TGAGCAACAG	TACTACTGGCA	ACTATTCAAG	1980
CTCTTGCTTC	TGGTGGCTCT	CTTCCAATAA	CATCACTTGA	TGCAACTGGG	AACCTGGTAT	2040
TTGCCAATGC	GGGAGGAGCC	CCCAACATCG	TGACTGCCCC	TCTGTTCTTG	AACCTCAGA	2100
ACCTCTCTCT	GCTCACCAGC	AACCCTGTTA	GCTTGGTCTC	TGCCGCCGCA	GCATCTGCAG	2160
GGAACCTCTG	ACCTGTAGCC	AGCCTTCACG	CCACCTCCAC	CTCTGCTGAG	TCCATCCAGA	2220
ACTCTCTCTT	CACAGTGGCC	TCTGCCAGCG	GGGCTGCGTC	CACCACCACC	ACCGCCTCCA	2280
AGGCACAGTG	AGCTGGGCAG	AGCTGGGCTG	CCAGAAGCCT	TTTTCACTCT	GCAGTGTGAT	2340
TGGACTGCCA	GCCAGGTTAA	TAAACTGAAA	AATGTGATTG	GCTTCCTCTC	GCCGTGTTGT	2400
GAGGGCAAAG	GAGAGAAGGG	AGAAAAAATA	AAAAAAACC	ACACACACCC	ATACACAATA	2460
TACCAGAAAA	GGAAGGAAGG	ATGGAGACGG	AACATTTGCC	TAATTTGTAA	TAAAAACTG	2520
TCTTTTCAGG	GTTGCTTCAT	GGGTTGAGG	ACTTTCTAAC	CAAAAATTAA	AAAAAAAAAA	2580
AAAA						2584